

CLAIMS

What is claimed is:

1. A computerized interface for managing a dialog between a computer and a user of the computer, the computer having an audio input device and an audio output device, the computerized interface comprising:
 - 5 a queue for retaining responses generated by the computer to spoken input from the user and received by the computer through the audio input device;
 - a dialog manager for placing the generated responses in the queue; and
 - 10 a turn manager for managing audible rendering of the responses from the queue through the audio output device, so that the user receives each response as part of a dialog between the computer and the user, the turn manager conducting the dialog in a polite manner that is subject to control by the user.
2. The interface of Claim 1, wherein the turn manager is subject to behavioral goals that include:
 - 15 providing speech output including audible renditions of the responses when spoken to by the user;
 - asking permission of the user before providing speech output based on delayed answers and notifications; and
 - allowing the user to (i) change subject and/or (ii) interrupt in the dialog.
- 20 3. The interface of Claim 1, wherein the turn manager provides the audible rendering of the responses in a delivery mode subject to selection by the user.
4. The interface of Claim 3, wherein the delivery mode is one of an immediate delivery mode and a delayed delivery mode.

5. The interface of Claim 1, wherein the turn manager manages the audible rendering of the responses based on dialog states that specify the current state of the dialog between the computer and the user.
6. The interface of Claim 1, wherein the response is an announcement of an event of interest to the user as determined by the computer.
7. A method for managing a dialog between a computer and a user of the computer, the computer having an audio input device and an audio output device, the method comprising the computer-implemented steps of:
 - 10 receiving responses generated by the computer to spoken input from the user and received by the computer through the audio input device;
 - placing the generated responses in a queue; and
 - managing audible rendering of the responses from the queue through the audio output device, so that the user receives each response as part of a dialog
 - 15 between the computer and the user, the dialog conducted in a polite manner that is subject to control by the user.
8. The method of Claim 7, wherein the step of managing the audible rendering of the responses is performed subject to behavioral goals that include:
 - 20 providing speech output including audible renditions of the responses when spoken to by the user;
 - asking permission of the user before providing speech output based on delayed answers and notifications; and
 - allowing the user to (i) change subject and/or (ii) interrupt in the dialog.
9. The method of Claim 7, wherein the step of managing the audible rendering of responses is performed in a delivery mode subject to selection by the user.

10. The method of Claim 9, wherein the delivery mode is one of an immediate delivery mode and a delayed delivery mode.
11. The method of Claim 7, wherein the step of managing the audible rendering of the responses is based on dialog states that specify the current state of the dialog between the computer and the user.
12. The method of Claim 7, wherein the response is an announcement of an event of interest to the user as determined by the computer.
13. A computer program product comprising:
 - a computer usable medium for managing a dialog between a computer and a user of the computer; and
 - a set of computer program instructions embodied on the computer usable medium, including instructions to:
 - receive responses generated by the computer to spoken input from the user and received by the computer through the audio input device;
 - place the generated responses in a queue; and
 - manage audible rendering of the responses from the queue through the audio output device, so that the user receives each response as part of a dialog between the computer and the user, the dialog conducted in a polite manner that is subject to control by the user.
14. The computer program product of Claim 13, wherein the set of computer instructions comprises further instructions to manage the audible rendering of the responses subject to behavioral goals that include:
 - providing speech output including audible renditions of the responses when spoken to by the user;
 - asking permission of the user before providing speech output based on delayed answers and notifications; and
 - allowing the user to (i) change subject and/or (ii) interrupt in the dialog.

15. The computer program product of Claim 13, wherein the set of computer instructions comprises further instructions to manage the audible rendering of responses based on a delivery mode subject to selection by the user.
- 5 16. The computer program product of Claim 15, wherein the delivery mode is one of an immediate delivery mode and a delayed delivery mode.
- 10 17. The computer program product of Claim 13, wherein the set of computer instructions comprises further instructions to manage the audible rendering of the responses based on dialog states that specify the current state of the dialog between the computer and the user.
18. The computer program product of Claim 13, wherein the response is an announcement of an event of interest to the user as determined by the computer.
- 15 19. A computerized interface for managing a dialog between a computer and a user of the computer, the computer having an audio input device and an audio output device, the computerized interface comprising:
- 20 a queue for retaining responses generated by the computer to spoken input from the user and received by the computer through the audio input device;
- means for placing the generated responses in the queue; and
- means for managing audible rendering of the responses from the queue
- 20 through the audio output device, so that the user receives each response as part of a dialog between the computer and the user, the dialog conducted in a polite manner that is subject to control by the user.
- 25 20. A computer program propagated signal product comprising:
- a computer usable propagated medium for managing a dialog between a computer and a user of the computer; and
- a set of computer program instructions embodied on the computer usable propagated medium, including instructions to:

receive responses generated by the computer to spoken input from the user and received by the computer through the audio input device;

place the generated responses in a queue; and

5 manage audible rendering of the responses from the queue through the audio output device, so that the user receives each response as part of a dialog between the computer and the user, the dialog conducted in a polite manner that is subject to control by the user.

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